

Coats & Bennett

PLLC



1400 Crescent Green
Suite 300
Cary, North Carolina 27511
tel: 919-854-1844
800-575-1278
fax: 919-854-2084
www.coatsandbennett.com

8A
3724

Patents, Trademarks,
Copyrights, Trade Secrets,
Licensing, and
Related Litigation

December 27, 2001

**Honorable Commissioner of Patents
And Trademarks
Washington, D.C. 20231**

Larry L. Coats†
David E. Bennett†
John R. Owen†
David D. Kalish†
Edward H. Green III†
Anthony J. Biller
Michael D. Murphy*

†registered patent attorney
*registered patent agent

RE: Appeal Brief in United States Patent Application Serial No. 09/054565
Filing Date: April 3, 1998

Dear Sir or Madam:

Please find enclosed an Appeal Brief served in triplicate in compliance with 37 C.F.R. 1.192.

Also enclosed is a check for \$320.00 to cover the cost of this appeal brief. If there are any additional fees please charge them to our deposit account, Deposit Account No. 18-1167.

Sincerely,


Larry L. Coats

Enclosures

LLC/cjw
3489-027



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re Application of)
JACK SIMPSON)
Serial No. 09/054,565) Goodman, C.
Filing Date: April 3, 1998) Examiner
For: **RESILIENT SCRAP STRIPPER FOR A**) Art Unit 3724
CORRUGATED BOARD ROTARY)
CUTTING DIE)
Attorney Docket No. 3489.027)
Raleigh, North Carolina
December 27, 2001

Honorable Commissioner of Patents
and Trademarks
Washington, D.C. 20231

APPEAL BRIEF

(1) REAL PARTY IN INTEREST

The real party in interest is Container Graphics Corporation, the Assignee of the present application.

(2) RELATED APPEALS AND INTERFERENCES

There is no related appeals or interferences to the best of Applicant's knowledge.

(3) STATUS OF CLAIMS

There are twenty-three (23) claims pending in this case. They are claims 1-10, 14-21, 24, and 26-29. All of these claims stand rejected and all of these claims are being appealed herein. Accordingly, claims 1-10, 14-21, 24 and 26-29 are being appealed from the final rejection of the examiner.

(4) STATUS OF AMENDMENTS

There are no pending amendments.

(5) SUMMARY OF INVENTION

The present invention provides a resilient scrap stripper 10 for a rotary die 40 that cuts corrugated board CB (fig. 1). The scrap stripper 10 includes a base 12 that is secured to a die board 52 and an angled compressible flexible finger 22 integral with the base 12 and which extends outward therefrom. Spec. p. 10, l. 15-21 and p. 11, l. 1-4. The finger 22, in a noncompressed position (fig. 2), extends at an angle outwardly past the terminal edge of an adjacently disposed scrap blade 56. During the cutting operation, the scrap stripper 10 is disposed between a rotary cutting die 40 and the corrugated board CB been passed between an anvil 60 and the rotary cutting die 40. As the scrap stripper 10 enters the nip 64 between the die board 52a and the anvil 60, the entire stripper 10, including the base 12 and the angled finger 22, is compressed such that adjacently disposed scrap blades cut selective pieces of scrap from the corrugated board CB blank passing through the nip. Figs. 4A and 4B, Spec. p. 12, l. 5-20 and p. 13, l. 1-2. As the scrap stripper 10 exits the nip 64, the stripper 10 finds itself still disposed between the cut scrap piece and the cutting die 40. However, as a scrap stripper 10 exits the nip 64, the same will expand and as it expands it will strip the underlying piece of cut scrap from the adjacent blade or blades. Figures 4C and 4D, Spec. p. 13, l. 11-21. In addition, the angled finger 22 that forms a part of the scrap stripper 10 will tend to extend and in this process the flexible angled finger 22 will engage and push the cut scrap piece against the underlying and rotating anvil 60. The ability of the angled finger 22 to extend substantially beyond the height of the cutting blade or blades enables the flexible finger to hold the cut scrap piece against the anvil on the downstream side of the nip 64. Thus, it follows, this causes the cut scrap to be separated

from the corrugated board product and to be directed generally downwardly alongside the downstream side of the anvil 60.

(6) ISSUES

Are claims 8-10, 14, 16-17, 19, 26 and 28 unpatentable under 35 U.S.C. § 112?

Are claims 1-4, 6, 15-17, 19, 21, 24, 26 and 28 anticipated by Rilitz et al.?

Are claims 1-6, 8-10, 14-17, 19, 21, 24, 26, 28 and 29 anticipated by Okonski?

Are claims 5, 7, 18 and 20 unpatentable under 35 U.S.C. § 103(a) in view of Rilitz et al.?

Are claims 7, 18, and 20 unpatentable under 35 U.S.C. § 103(a) in view of Okonski?

Are claims 1-10, 14-21, 24 and 26-29 unpatentable under 35 U.S.C. § 103(a) in view of Smithwick et al. and Okonski?

Are claims 1-10, 14-21, 24 and 26-29 unpatentable under 35 U.S.C. § 103(a) in view of Smithwick et al. and Wright?

(7) GROUPING OF CLAIMS

For purposes of this appeal the claims should be grouped as follows:

Group 1: Claims 1, 3, 5, 29

Group 2: Claim 2

Group 3: Claim 4

Group 4: Claim 6

Group 5: Claim 7, 8, 9 and 10

Group 6: Claim 14

Group 7: Claims 15, 16, 17, 21, 24 and 26

Group 8: Claims 18 and 20

Group 9: Claims 19

Group 10: Claim 27

Group 11: Claim 28

(8) ARGUMENT

A. THE LAW OF ANTICIPATION AND OBVIOUSNESS

Anticipation under 35 U.S.C. § 102 requires the disclosure in a single piece of prior art of each and every limitation of a claimed invention. *Rockwell Intern. Corp. v. U.S.*, 147 F.3d 1358, 47 U.S.P.Q.2d 1027 (Fed. Cir. 1998). That is, every element and limitation of the claim must be identically shown in a single reference. *In re Bond*, 910 F.2d 831, 15 U.S.P.Q.2d 1566 (Fed. Cir. 1990).

While it is true that the PTO may give a claim its broadest reasonable meaning when determining patentability, *Burlington Industries, Inc., v. Quigg*, 822 F.2d 1581 (Fed. Cir. 1987), the Examiner cannot ignore the “reasonableness” limitation. In differentiating between reasonable and unreasonable interpretations, the basic rules of claim interpretation apply.

First, terms in a claim must be given their plain and ordinary meaning unless the applicant has clearly provided a contrary definition in the specification. *In re Zletz*, 893 F.2d 319 (Fed. Cir. 1989). *See also*, MPEP § 2111.01. Second, terms and phrases of a claim must be construed in harmony with the Applicant’s written description. “[The mandate of broadest reasonable interpretation during prosecution] does not relieve the PTO of its essential task of examining the entire patent disclosure to discern the meaning of claim words and phrases.” *Atlantic Thermoplastics Co., Inc. v. Faytex Corp.*, 970 F.2d 834 (Fed. Cir. 1992), *reh’g in banc denied*, 974 F.2d 1279 (Fed. Cir. 1992). Further, the interpretation given to claim terms and phrases must be consistent with the interpretation that would be given by one skilled in the art. *In re Cortright*, 165 F.3d 1353 (Fed. Cir. 1999). “It is axiomatic that, in proceedings before the

PTO, . . . claim language should be read in light of the specification as it would be interpreted by one of ordinary skill in the art. *In re Bond*, 910 F.2d 831 (Fed. Cir. 1990). *See also*, MPEP § 2111.01. Finally, what the applicant states the claims to mean is vital to an examination of patentability. “When the applicant states the meaning that the claim terms are intended to have, the claims are examined with that meaning, in order to achieve a complete exploration of the applicant’s invention and its relation to the prior art.” *In re Zletz*, 893 F.2d 319 (Fed. Cir. 1989). “The inquiry during examination is patentability of the invention as ‘the applicant regards’ it . . .” *Id.*

The PTO has the burden under § 103 to establish a *prima facie* case of obviousness. When combining references, the PTO can satisfy this burden only by showing some objective teaching in the prior art, or knowledge generally available to one of ordinary skill in the art, that would motivate one to combine the relevant teachings of the references. *In re Fine*, 837 F.2d 1071, 1074, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988). Obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching or suggestion supporting the combination. *ACS Hosp. Sys., Inc. v. Montefiore Hosp.*, 732 F.2d 1572, 1577, 221 USPQ 929, 933 (Fed. Cir. 1984). The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on applicant’s disclosure. *In re Vaeck*, 947 F.2d 488, 20 U.S.P.Q.2d 1438 (Fed. Cir. 1991).

B. CLAIMS 9-10, 14, 16-17, 19, 26 and 28 ARE NOT VAGUE OR INDEFINITE UNDER 35 U.S.C. § 112

First, the Examiner has rejected claim 8 under Section 112 because of the use of the term “it”. This rejection is well-taken. Applicant will amend claim 8 by removing “it” and replacing “it” with the proper term. With respect to the remaining Section 112 rejections, especially those

dealing with antecedent basis, it is urged that the terms questioned by the Examiner do not require any more of an antecedent than is provided by these claims. The Examiner in claim 8 takes the position that the claim is vague and indefinite because there is no antecedent basis for the phrase “the direction of movement.” “There is no need for any antecedent basis here.” The phrase being referred to is not an element of the claim but simply describes that the angled finger acts to control the direction of movement of the scrap piece as it exits the nip. There is nothing vague or indefinite about that phrase.

The Examiner also imposes 112 rejections based on the use of the terms “the height”; (claim 16), “the direction of travel of the cutting die”; and (claim 26) the term “the influence of centrifugal force.” If the real issue here is whether a person of ordinary skill in the art can understand these terms as recited in the claim, then it is respectfully urged that there is no vagueness or indefiniteness here. For example, there can be question that the scrap cutting blade does have a height. Claim 9 simply states that both the finger and base are compressed such that together they do not extend past the height of the scrap cutting blade. It is indeed overly technical and purely academic to require the Applicant to state that the scrap cutting blade includes a height. It is absolutely clear that the blade does have a height. With respect to claim 16, the claimed subject matter states that the outer portion of the scrap stripper flexes backwardly in a direction generally opposite to the direction of travel of the cutting die. The point being made here is the relative position of the scrap stripper with respect to the direction of travel of the cutting die. There is nothing vague or indefinite about the claimed subject matter of claim 16.

The Examiner also rejects claim 16 as being vague and indefinite maintaining that it is not clear what the claim encompasses. The concerned phrase is “adapted to work in conjunction

with a rotary anvil." The drawings and the written specification show precisely how the cutting die is adapted to work in conjunction with the rotary anvil. There is nothing vague or indefinite here.

Claim 28 is also being rejected as being vague and indefinite. The concern raised by the Examiner in this case is well-taken. The base being referred to is the base of the cutting die. Accordingly, the Applicant will amend claim 28 to specifically provide that the base being referred to is the base of the cutting die.

C. CLAIMS 1-4, 6, 15-17, 19, 21-24, 26 and 28 are not anticipated by Rilitz et al.

In order to anticipate, the Rilitz disclosure must disclose each and every limitation of the claimed invention. *Rockwell Intern. Corp, supra*. A study of the Rilitz et al. patent shows that it does not include each and every limitation of these claims.

Claim 1 is exemplary of the claims in this case and is as follows:

1. A rotary cutting die for cooperating with a rotary anvil to cut corrugated board comprising:

(a) a base;

(b) at least one scrap cutting blade secured to the base of the cutting die for cutting a piece of scrap from a sheet of corrugated board that is directed through a nip defined between the cutting die and the anvil;

(c) at least one scrap stripper mounted to the base adjacent the blade for stripping a cut scrap piece from the blade and for urging the cut scrap piece against the anvil as the cut scrap piece exits the nip;

(d) at least one scrap stripper being constructed of a resilient and compressible material and including a base, and a flexible finger integral with the base and extending outwardly over the base and at an acute angle with respect to the base such that an opening is defined between the angled finger and the base; and

(e) wherein the flexible finger is movable between a retracted position where the finger lies adjacent the base and an extended position where at least a portion of the finger is separated from the base.

The Examiner notes that Rilitz et al. discloses a cross cutter comprising all the elements claimed including, *inter alia*, a base (7,9); at least one scrap cutting blade (8, 11); and at least one scrap stripper (13, 14).

First, the Rilitz et al. patent does not relate to a die cutter for cutting corrugated board and certainly does not relate in any way to cutting and ejecting scrap from such a corrugated board. There are any number of functional limitations positively recited in the claims that is not found in Rilitz. In the way of examples, claim 1 calls for a scrap cutting blade for cutting a piece of scrap from a sheet of corrugated board. Rilitz does not disclose this limitation. Further, claim 1 recites at least one scrap stripper for stripping a cut piece of corrugated board from the blade and urging the cut scrap of corrugated board against the anvil. These are limitations that are found in all of the claims. In order to anticipate Rilitz would have to specifically show these limitations. The Examiner evidently believes that patentable weight need not be given to functional limitations. However, that is not the law. The Federal Circuit has said that in determining patentability, functional language including preambles and terms such as “whereby”, “thereby”, and “adapted to” cannot be disregarded. See *Pac-Tec, Inc. v. Amerace Corp.*, 141 U.S.P.Q. 2d 1871 (Fed. Cir. 1990), *cert. denied*, 502 U.S. 808 (1991).

The Examiner points to the resilient guides 13 and 14 in the Rilitz patent and maintains that these elements constitute scrap strippers. They do not. Elements 13 and 14 in the Rilitz patent are “first and second guides which are provided on the respective conveyors upstream of or behind the respective knives (as seen in the first and second directions) to maintain the leader of the web at least close to the predetermined path.” Rilitz, column 2, lines 55-60. At column 4 of the Rilitz patent, lines 38-43, the patent states: “In other words, the radially outermost portion of the guide 13 can steer the adjacent portion of the web towards the locus where the cutting

edges 8a, 11a of the knives 8, 11 cooperate once during each revolution of the conveyors to 3, 1 to sever the web 3 and to separate a length 26 of flexible material from the thus obtained leader 25 at the front end of the remaining portion of the web." It is thus clear that the elements 13 and 14 are not scrap strippers but are simply used to guide or steer the web material to where the two knives come together to cut the same. They have absolutely nothing whatsoever to do with removing scrap and cannot under any conditions be termed a "scrap stripper". Therefore, it is clear that the guides 13 and 14 do not function to strip scrap from an adjacent scrap blade. Thus, for this reason alone, the claims in the present application, including claim 1, cannot as a matter of law, be deemed to be anticipated by Rilitz.

Further, claim 1, for example, makes it clear that the scrap stripper forms two fundamental functions. First, the scrap stripper strips a cut scrap piece of corrugated board from the scrap cutting blade. The guides 13 and 14 in Rilitz do not do this. Secondly, in the claim, the scrap stripper urges the cut scrap against the anvil as the cut scrap piece exits the nip. The guides 13 and 14 do not urge scrap against a cooperating anvil to control the discharge of the scrap.

Further, as conclusive evidence that there is no anticipation here, claim 1 also calls for at least one scrap cutting blade. Again, these terms have to be construed as a person of ordinary skill in the art would construe them. Thus, the claim is talking about a scrap cutting blade for cutting scrap from a corrugated board. The blades 8a and 11a of the Rilitz patent have nothing whatsoever to do with cutting scrap. They actually cut the product, that is the web 3, into certain lengths. They are not scrap blades as called for in the claims and no sound interpretation of Rilitz can make the blades 8a and 11a anything other than blades for cutting the web or the product.

Further, returning back to a discussion of the scrap stripper, claims 1 and 15 call for the same to include a base and a flexible finger integral with the base. Note the scrap stripper in figure 2 of the drawings of the present application. Note the base indicated generally by the numeral 12 and the finger indicated generally by the numeral 22. That structure is not shown in the Rilitz patent. Even if the guides 13 and 14 could properly be construed to be scrap strippers, which they cannot be, they still do not meet the structural limitations found in claims 1 and 15. That is, the guides 13 and 14 do not include both a base portion and a finger extending from the base portion.

For the same reasons, claim 15 is not anticipated by the Rilitz patent. Again, the claim calls for one blade for cutting scrap and at least one scrap stripper for stripping a cut piece of scrap from the blade. Claim 15 also calls for the scrap stripper to be constructed of a compressible material and including both a base and an outer flexible portion extending outwardly over the base at an acute angle with respect to the base. It does not appear that the guides 13 and 14 of Rilitz includes these two distinct portions, that is a base and a flexible portion such as a finger extending from the base.

In the end, the Examiner has misconstrued both Applicant's claims and what the Rilitz patent teaches. The guides 13 and 14 that are used to guide the web towards the nip in the Rilitz patent has nothing whatsoever to do with stripping scrap cut from a corrugated board.

D. Claims 1-6, 8-10, 14-17, 19, 21, 24, 26 28 and 29 are not anticipated by Okonski.

There are a number of differences between the claimed invention and the teachings of Okonski. First, Okonski has nothing whatsoever to do with cutting corrugated board and stripping cut scrap from corrugated board. Secondly, the scrap stripper or strippers of the present invention are made from compressible material. That is, as the base and finger of a scrap

stripper move through the nip, the finger bends back onto the base and both the base and the finger are compressed together. Claim 1 defines the scrap stripper as not only being resilient but compressible. Here compressible means that the material that makes up the base and the finger can be compressed, that is the material is reduced in size and volume as the finger and base move through the nip. That is not the case in the Okonski patent. The projections 40, which are formed from and cut from the die plate, may flex back and forth but they are not constructed of compressible material and do not include a base and a finger that is of the design set forth, for example, in claim 1. In fact, in the Okonski patent, at column 4, lines 7-13, it is stated that the die plate and its projections 40 are made from stainless steel, carbon steel or the like. Certainly this indicates that the projections are not compressible and certainly not compressible as that term is specifically defined herein.

Besides not being compressible, the projections 40 do not include the compressible base and the compressible finger extending outwardly over the base and an acute angle with respect to the base. Note that is how the compressible stripper of claim 1 is defined.

Turning to claim 8, Okonski does not anticipate the subject matter of this claim which is directed to a method of cutting corrugated board. There is no description or suggestion in Okonski of cutting scrap from a corrugated board. The Examiner ignores that claim 8 is drawn to a method of cutting and extracting scrap from corrugated board. There is no discussion in the Examiner's rejection of claim 8 as to how the individual method steps articulated in claim 8 are met by the Okonski reference. It is true that the Okonski cutting die is appropriate to cut sheet material such as paper, cloth or plastic material to form envelopes, labels, sanitary napkins, window patterns and the like. But the disclosure of Okonski is not directed to a method for cutting corrugated board. Paragraph C of claim 8 recites that the scrap stripper includes a base

and a flexible angled finger. The claim goes on to state that the flexible finger is integral with the base and extends outwardly over the base at an acute angle with respect to the base such that an opening is defined between the angled finger and the base. There is no base in the Okonski scrap stripper. The projections 40 simply extend upwardly from the die board.

Paragraph D of claim 8 calls for compressing the scrap stripper between the cutting die and the scrap piece by bending and compressing the finger against the base, closing the opening existing between the angled finger and the base and compressing both the finger and base as the scrap moves through the nip. Here again, the term “compressing” as used in Paragraph D of claim 8 means that the base and the finger are both reduced in volume and size. Clearly, that is not the case with the projections of Okonski.

Finally, Paragraph F of claim 8 calls for extending the flexible finger outwardly as the scrap stripper moves from the nip and engaging the cut scrap piece with the extended finger and holding the cut piece against the anvil with the finger such that the anvil tends to direct the cut scrap piece away from the nip and away from the cutting die and anvil.

Although there is an anvil shown in the drawings in the Okonski patent, the basic method or process taught therein does not teach utilizing the scrap strippers and particularly the finger portion to push the scrap against the anvil as described in Paragraph F of claim 8. In that portion of claim 8, the finger extends and actually holds the scrap piece against the anvil. That is not taught or shown in the Okonski patent.

Claim 15 is much like claim 1 and for the same reasons set forth above is not anticipated by Okonski. However, claim 15 includes the additional limitation that the scrap stripper is formed independently of the board. Note that in Okonski the projections 40 are actually a part of the die board as they have been cut in such a manner that they project from and extend from the

die board. In the present invention, and as particularly recited in claim 15, the resilient scrap stripper is formed independently of the die board. Note in figure 2 of the drawings of the present application, that the scrap stripper 10 is designed to be mounted and secured to the board. It is not formed from the board itself. Consequently, based on Paragraph C alone, claim 15 cannot be anticipated by the patent to Okonski.

Paragraph D of claim 15 recites that the scrap stripper is constructed of a compressible material. Here “compressible” means the same as discussed before. That is, the material that forms the stripper is reduced in size and volume as it passes through the nip. Also, Paragraph D recites that the stripper includes a base and an outer flexible portion extending outwardly over the base at an acute angle with respect to the base, and that there is an open relief area defined intermediately between the outer flexible portion and the base that permits the outer flexible portion to flex back and forth with respect to the base. Again, in the Okonski patent, the projections do not include a separate base and an outer flexible portion or finger.

E. Claims 5, 7, 18 and 20 are not obvious in view of Rilitz et al.

The obviousness rejection of these claims assumes that the base claims from which the rejected claims depend are anticipated by Rilitz. For the reasons already articulated above, that is not the case. Claims 1 and 15 as discussed above are not anticipated and therefore claims 5, 7, 8 and 20 cannot be deemed to be obvious.

F. Claim 7, 18 and 20 are not obvious in view of Okonski.

This rejection presupposes that the claims from which claim 7, 18, and 20 depend upon are anticipated by Okonski. For the reasons already articulated above, that is not the case. Claims 7, 18 and 20 are not obvious in view of Okonski.

G. Claims 1-10, 14-21, 24, and 26-29 are not obvious in view of Smithwick, Jr. et al. and Okonski.

The Examiner has not made out a *prima facie* case of obviousness here. As discussed above, it is clearly the law that there must be some motivation or incentive in the references themselves, or at least in the general knowledge of one of ordinary skill in the art, to support the combining of references. There is nothing here that would have motivated a person of ordinary skill in the art to make this combination. Here, the only motivation for combining Smithwick with Okonski is Applicant's own disclosure and such a combination based on hindsight is impermissible as a matter of law.

First, Okonski has nothing whatsoever to do with cutting corrugated board and ejecting scrap therefrom. Indeed, note that the thickness HI of plate 30 will typically be from 0.003-0.060 inches. Okonski, column 4, lines 13-14. The metal projections 40 that are cut from this thin plate will not under any circumstances eject corrugated scrap from corrugated board. This would be clear to a person of ordinary skill in the art dealing with cutting corrugated board. A person of ordinary skill in this art knows the difficulties and forces required to eject scrap from corrugated board. The same people of ordinary skill in the art would not be motivated or inclined to combine the teachings of Okonski with Smithwick.

The Examiner has indicated that it would have been obvious to a person of ordinary skill in the art to provide the device and method of Smithwick with the finger extending over the base of the stripper at an acute angle as taught by Okonski in order to enhance the absorption of the compression forces without compromising the longitudinally directed force required to free the scrap. With all due respect to the Examiner, the Applicant in this case, a person of extraordinary skill in the art, is not altogether clear as to what the Examiner means by "in order to enhance the absorption of the compressive forces without comprising the longitudinally directed force

required to free the scrap.” Not only is this statement of motivation difficult to understand but there is no indication as to where the Examiner came up with this theory of motivation. At best the theory of motivation is not based on any concrete evidence but is simply the Examiner’s opinion. As best as can be understood, the speculated motivation is precisely what one of ordinary skill in the art would avoid. In short, one does not want to increase or enhance the compressive force. Such is to be avoided. Increasing or enhancing the compressive forces is not desirable because it would inhibit the ability of the cutting die to cut the scrap. If one cannot cut the scrap it follows that one cannot eject the scrap. In short, if it were desirable to enhance the absorption of the compressive forces, one would simply make the scrap ejector of Smithwick higher. Thus, the realities teach against the very basis that the Examiner puts forth for combining the two patents. In short, the motivation for combining Smithwick and Okonski as set forth by the Examiner is in fact not a motivation or suggestion at all. The entire premise for the motivation fails.

The Examiner maintains that Smithwick itself provides a motivation for combining Okonski. In particular, the Examiner notes that Smithwick already teaches that the angular orientation of the fingers along with the adjacent notches allows the stripper to absorb compressive forces during the cutting operation while at the same time rebound to longitudinally direct a force which helps to free the scrap. That is not a principal teaching of Smithwick. To the contrary, as discussed in the summary of the invention in the Smithwick patent, the inventors stress that the notches in the top and bottom portions of the web provide a displacement zone for the lugs that extend up from the web. Note that each lug is aligned with a notch on the opposite side of the web that permits the lug to be displaced into the notched area. Each of the lugs extend directly upwardly from the web. There is absolutely no suggestion in Smithwick to angle

the lugs over the adjacent notches. The idea of angling the lugs over the adjacent notches is based solely on the disclosure in the present application. There is absolutely no motivation for such found in the Smithwick patent.

The motivation set forth by the Examiner in this case is not supported by substantial evidence. The motivation is nothing more than the Examiner's opinion in this case, an opinion that, to the best of Applicant's understanding, is in reality wrong. This basic factual finding by the Examiner must be rejected. As the Federal Circuit pointed out in *In re Zurko*, 59 U.S.P.Q 2d 1693, 1697, with respect to core factual findings in a determination of patentability, neither the Board nor the Examiner can simply reach conclusions based on its understanding or experience. Rather, the patent office must point to some concrete evidence in the record to support such core factual findings. In this case, the motivation articulated by the Examiner is a core factual finding. It is totally unsupported and for that reason alone, the rejection of obviousness must be overturned.

H. Claims 1-10, 14, 21, 24, 26 and 29 are not obvious in view of Smithwick and Wright.

The Examiner has again failed to make out a *prima facie* case of obviousness. The patent to Wright has nothing whatsoever to do with cutting corrugated board and cutting and ejecting scrap from corrugated board. The patent to Wright simply relates to a rotary well bore cleaner. First, it can be no doubt that this is nonanalogous art. It certainly does not relate to the field of die cutting or cutting corrugated board and is not reasonably related to the problem solved by the Applicants in this case. The removal of mudcakes from the wall of a well cannot be reasonably related to the problem of ejecting cut scrap pieces from corrugated board.

The Examiner then notes that it would have been obvious to one of ordinary skill in the art to provide the device and method of Smithwick with a finger extending over the base of the

stripper at an acute angle as taught by Wright in order to facilitate ease of compression of the stripper fingers. This is a classical hindsight reconstruction. In designing scrap ejectors for corrugated board, the object or goal is not to design a system around the ease of compression of the stripper fingers. These same fingers have to possess enough stored energy after compression in order to eject the cut corrugated scrap. Thus, simply designing the stripper fingers for ease of compression has never been an object or goal of a scrap stripper design. There is no evidence in the record that supports this motivation. The Examiner fails to disclose where in the prior art or in the record is found a basis for this motivation. It again is a core patentability factual finding that is unsupported by substantial evidence and based solely on the opinion and conjecture of the Examiner. Consistent with *In re Zurko supra*, this core factual finding cannot stand.

In both obviousness rejections, the primary reference to Smithwick never envisions a scrap stripper having a base and a finger extending from the base at an acute angle. Indeed, Smithwick teaches just the opposite. The fingers in Smithwick extends straight up and are not disposed at an angle over the base so as to define an opening or a relief area between the finger and the base. The concept of extending the compressible finger over the base at an acute angle to form a scrap stripper is diametrically opposed to the basic Smithwick teaching. No amount of speculation or conjecture attempting to fabricate a motivation will make the claims of this case obvious in view of Smithwick and Okonski or Smithwick and Wright.

I. The Examiner cannot refuse to give weight to recitations in the claims

Throughout the final office action, the Examiner repeatedly states that he “has not given significant patentable weight” to such terms as “adapted to work”, “adapted to”, etc. It is not understood what the Examiner means by “significant”. This is indeed problematic because each and every element or limitation in a claim is deemed to be material as a matter of law. Some

elements and limitations cannot be significant and others not significant. The Federal Circuit has specifically addressed the issue of giving weight to functional limitations including “adapted to” limitations. In determining patentability, functional language, preambles, and language such as “whereby”, “thereby” and “adapted to” cannot be disregarded. *Pac-Tec, Inc. v. Amerace Corp.*, 14 U.S.P.Q. 2d 1871 (Fed. Cir. 1990), *cert. denied*, 502 U.S. 808 (1991).

In other rejections advanced by the Examiner, the Examiner makes it clear that certain limitations expressed in claims have been given no patentable weight. With regard to the rejection based on anticipation by Rilitz et al., the Examiner at page 9 of the final rejection states that no significant patentable weight has been given to recitations related to corrugated board since such recitations only relate to how the claimed apparatus is intended to be employed. As already discussed, both claims 1 and 15 include functional limitations relating to how the scrap blade and scrap strippers act on the corrugated board. These are material functional limitations. They cannot be simply classified as statements of intended use.

Conclusion

For the foregoing reasons, it is respectfully urged that all of the claims of the present application define patentable subject matter and the Board is respectfully urged to reverse the decision by the Examiner.

Respectfully submitted,

COATS & BENNETT, P.L.L.C.

By:



Larry L. Coats
Registration No. 25,620
P.O. Box 5
Raleigh, N.C. 27602
Telephone: (919) 854-1844

CERTIFICATE OF MAILING

I HEREBY CERTIFY THAT THIS DOCUMENT IS BEING DEPOSITED WITH THE UNITED STATES POSTAL SERVICE AS FIRST CLASS MAIL, POSTAGE PREPAID, IN AN ENVELOPE ADDRESSED TO: ASSISTANT COMMISSIONER OF PATENTS, WASHINGTON, D.C. 20231.

SIGNATURE



DATE

12/27/01

(9) APPENDIX

CLAIMS

What is claimed is:

1. A rotary cutting die for cooperating with a rotary anvil to cut corrugated board comprising:
 - (a) a base;
 - (b) at least one scrap cutting blade secured to the base of the cutting die for cutting a piece of scrap from a sheet of corrugated board that is directed through a nip defined between the cutting die and the anvil;
 - (c) at least one scrap stripper mounted to the base adjacent the blade for stripping a cut scrap piece from the blade and for urging the cut scrap piece against the anvil as the cut scrap piece exits the nip;
 - (d) at least one scrap stripper being constructed of a resilient and compressible material and including a base, and a flexible finger integral with the base and extending outwardly over the base and at an acute angle with respect to the base such that an opening is defined between the angled finger and the base; and
 - (e) wherein the flexible finger is movable between a retracted position where the finger lies adjacent the base and an extended position where at least a portion of the finger is separated from the base.
2. The rotary cutting die of claim 1 wherein the finger forms an acute angle of approximately 30-75 degrees with the base.
3. The rotary die cutting board of claim 1 wherein the die cutting is designed to rotate in a certain direction and wherein the finger is angled away from said direction.

4. The rotary cutting die of claim 1 wherein in the retracted position the finger assumes a compressed state and when compressed, the finger is pushed into contact with the base such that both the finger and base can be compressed together in response to the scrap stripper passing through the nip between the die cutting board and the anvil.

5. The rotary cutting die of claim 1 including a plurality of the scrap strippers particularly placed on the base to engage one or more cut scrap pieces and strip the one or more scrap pieces from one or more adjacent blades.

6. The rotary cutting die of claim 1 wherein prior to entering the nip, the scrap stripper assumes an erect position and upon entering the nip, the finger is closed adjacent the base and the finger and base are compressed together, and upon moving from the nip both the base and the finger expand and the finger separates from the base and moves outwardly towards the erect position and in the process the finger engages and holds the cut piece of scrap adjacent the anvil such that the anvil acts to direct the cut scrap away from the die cutting board and anvil.

7. The rotary die cutting of claim 1 wherein the scrap stripper is constructed of a closed cell rubber material having a durometer of approximately 25-60.

8. A method of cutting corrugated board passing between a rotary cutting die and an anvil, stripping one or more cut scrap pieces from a scrap cutting blade, and directing the cut scrap from the cutting die and anvil, comprising:

- (a) directing a sheet of corrugated board through a nip area defined between the cutting die and anvil;
- (b) cutting one or more scrap pieces from the corrugated board as it passes through the nip;

(c) utilizing a scrap stripper having a base and a flexible, angled finger to strip the cut scrap piece from the scrap blade and to control the direction of movement of the scrap piece as the scrap piece exits the nip, and wherein the flexible finger is integral with the base and extends outwardly over the base at an acute angle with respect to the base such that an opening is defined between the angled finger and the base;

(d) compressing the scrap stripper between the cutting die and the scrap piece by bending and compressing the finger against the base, closing the opening existing between the angled finger and the base, and compressing both the finger and base as the scrap stripper moves through the nip;

(e) expanding the scrap stripper as the scrap stripper moves from the nip and engaging the cut scrap piece and stripping it from the scrap cutting blade; and

(f) extending the flexible finger outwardly as the scrap stripper moves from the nip and engaging the cut scrap piece with the extended finger and holding the cut scrap piece against the anvil with the finger such that the anvil tends to direct the cut scrap piece away from the nip and away from the cutting die and anvil.

9. The method of claim 8 wherein the finger normally extends outwardly past the scrap cutting blade when it assumes a normal non-compressed posture and wherein when the scrap stripper assumes a fully compressed position both the finger and base are compressed such that together they do not extend past the height of the scrap cutting blade.

10. The method of claim 9 wherein the scrap stripper is oriented such that the finger thereof, when extended, extends in a general direction opposite a direction of travel of the die cutting board.

14. The method of claim 8 wherein the angle formed between the base and the finger is approximately 30-75 degrees.

15. A rotary cutting die having one or more scrap strippers for stripping cut scrap pieces from one or more scrap cutting blades associated with the cutting die comprising;

- (a) a board;
- (b) at least one blade mounted on the board for cutting scrap;
- (c) at least one resilient scrap stripper formed independently of the board and mounted on the board adjacent the scrap cutting blade for stripping a cut scrap piece from the blade; and
- (d) the scrap stripper being constructed of a compressible material and including a base, an outer flexible portion extending outwardly over the base and at an acute angle with respect to the base and being movable back and forth between an extended position and a retracted position, and an open relief area defined intermediately between the outer portion and the base within the scrap stripper that permits the outer flexible portion to flex back and forth between the extended and retracted positions.

16. The cutting die of claim 15 wherein the rotary die cutting die is adapted to work in conjunction with a rotary anvil; and wherein the outer portion of the scrap stripper flexes backwardly, in a direction generally opposite to the direction of travel of the cutting die, as the scrap stripper moves through a nip area defined between the cutting die and the anvil.

17. The rotary cutting die of claim 16 wherein the outer portion of the scrap stripper includes a flexible finger that is disposed at an angle with respect to the base and wherein the open relief area is defined between the angled finger and the base.

18. The rotary cutting die board of claim 15 wherein the scrap stripper is constructed of a rubber material having a durometer of approximately 25-60.

19. The rotary cutting die of claim 17 wherein the open relief area is formed by a portion of the angled finger and a portion of the base, and wherein the open relief area is opened along one side opposite where the finger and base merge.

20. The rotary cutting die of claim 18 wherein the scrap stripper includes a finger that forms an angle of approximately 30-75 degrees with the base.

21. The rotary cutting die of claim 15 wherein the open relief area is surrounded by the base and outer flexible portion of the resilient scrap stripper.

24. The rotary cutting die of claim 15 wherein the scrap stripper is selectively weighted.

26. The rotary cutting die of claim 24 wherein the cutting die is operative to cooperate with an anvil and wherein the scrap stripper includes a weighted portion that is generally urged outwardly from the board of the cutting die under the influence of centrifugal force as the scrap stripper exits a nip area defined between the cutting die and the anvil.

27. The rotary cutting die of claim 1 wherein in the retracted position the finger and base are both compressed.

28. The rotary cutting die of claim 1 wherein the scrap stripper is constructed independently of the base.

29. The rotary cutting die of claim 1 wherein the finger of the scrap stripper in the extended position assumes a straight configuration.